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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,838	04/02/2001	Hyun-doo Shin	Q59546	8476
7590	11/03/2004		EXAMINER LE, BRIAN Q	
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC 2100 PENNSYLVANIA AVENUE, N.W. WASHINGTON, DC 20037-3213			ART UNIT 2623	PAPER NUMBER

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/822,838

Applicant(s)

SHIN ET AL.

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/01/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Amendment and Arguments

1. Applicant's amendment filed July 21, 2004, has been entered and made of record.
2. Regarding to the objection of the drawings, the Applicant argues (page 12 of the Remarks) that the calculation of pattern quantization value is a conventional feature disclosed in the description (page 6, lines 11-15) and thus their detailed illustration is not essential for a proper understanding of the invention. The Examiner respectfully disagrees. The description (page, lines 11-15) of the specification only discloses the methods such as "counting algorithm" and the "calculation of the quantization value by the naked eye" are conventional/known. However, the Applicant does not disclose the pattern quantization value as a known/conventional terminology. If the Applicant believes that this terminology is conventional, the Applicant is required to explicitly state it so. Thus, the objection to the drawing is maintained.
3. The objection of claims 1, 3, 5, and 8-10 regarding the terminology "denoised" or "denoising" is withdrawn.
4. Applicant's arguments with regard to claims 1-10 have been fully considered, but are not considered persuasive because of the following reasons:

Regarding the rejections of claims 1-10 under 112, first paragraph, the Applicant argues that the specification discloses a counting algorithm (page 6, lines 12-13) and a digitization algorithm (page, line 9) are examples of methods for calculating a pattern quantizing value. While the Applicant discloses that the counting algorithm and digitization algorithm are examples of methods for calculating pattern quantizing value; however, the Applicant still does not explain the definition for the terminology "pattern quantizing value". Thus, the rejection is maintained. Similarly, the rejection of claims 1-10 under 112, second paragraph is maintained.

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Regarding claim 1, the Applicant argues (top of page 15) that Nakagawa does not disclose the increasing a threshold value while a pattern quantizing value is retained, and denoising the decomposed data. However, this amended limitation has created 35 U.S.C 112, first paragraph, new matter and does not support by the original specification.

Applicant's arguments regarding the projecting an image on a predetermined axis having a predetermined direction, see bottom of page 14 (Remarks), filed July 21, 2004, with respect to the rejection(s) of claim(s) 1 under 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Katsuyama U.S. Patent No. 6,771,813.

Applicant's arguments regarding the grouping images having similar texture characteristics using the pattern repetitiveness descriptors of the images, see bottom of page 15 (Remarks), filed July 21, 2004, with respect to the rejection(s) of claim(s) 1 under 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Katsuyama U.S. Patent No. 6,771,813.

Thus, the rejections of all of the claims are maintained.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the full details of the calculation and the concept of pattern quantizing value must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

6. The amendment filed July 21, 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the concept of “increasing a threshold value **while** a pattern quantizing value is retained” had completely added new matter into the disclosure of the invention. The concept is now increasing a threshold value while a pattern quantizing value is retained resulted parallel processing where as before the increasing a threshold value until a pattern quantizing value is retained resulted single processing.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed

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invention. The concept of “increasing a threshold value **while** a pattern quantizing value is retained, and denoising the decomposed data” is not supported in original specification (emphasis added). The original specification only supports the increasing a threshold value **until** a pattern quantizing value is retained.

9. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The key concept/term “pattern quantizing value” is not clearly disclose in the specification. The Applicant is required to clearly explain the terminology of pattern quantizing value. Also, the Examiner still not clear of how the threshold value working in conjunction with pattern quantizing value. Also regarding to claim 11, the concept of “increasing the threshold value until the pattern quantizing value **changes**” (emphasis added) is not supported in the original specification.

Further elaboration is required. The Prior Art rejection based on the Examiner’s best understanding.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Applicant is required to clearly explain the terminology of pattern quantizing value. Also, the Examiner still not clear of how the threshold value working in conjunction with

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pattern quantizing value. Further elaboration is required. The Prior Art rejection based on the Examiner's best understanding.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1, 3-5 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Nakagawa U.S. Patent No. 5,291,282 and Katsuyama U.S. Patent No. 6,771,813.

Regarding to claim 1, Nakagawa teaches a method of describing pattern repetitiveness of an image (FIG. 6) comprising the steps of:

(b) decomposing the projected image down own level (divide the image into blocks) (column 7, lines 1-5);

(c) increasing a threshold value until a pattern quantizing value is retained (column 11, lines 59-68 and column 30, lines 59-68), and denoising the decomposed data (amplification and noise removal) (column 33, lines 1-10); and

(d) describing pattern repetitiveness of the image using the pattern quantizing value of the denoised data and the threshold value used for denoising (column 33, lines 1-15).

Nakagawa does not explicitly teaches the concept of projecting an image on a predetermined axis having a predetermined direction. Katsuyama further teaches a pattern image processing (column 3, lines 35-38) wherein projecting an image on a predetermined axis (x-axis and y-axis)

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having a predetermined direction (FIG. 13 a, FIG. 17 and column 5, lines 40). Modifying Nakagawa's method of describing pattern repetitiveness of an image according to Katsuyama would be able to apply the axis and direction to further describe the pattern/similarity of the image. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Nakagawa according to Katsuyama.

Regarding to claim 3, please refer back to claim 1 for the teachings. In addition, Nakagawa teaches the method comprises the steps of calculating the pattern quantizing value of the image (column 11, lines 59-67); calculating the pattern quantizing value of the denoised data (column 12, lines 7-28) and discriminating whether a current pattern quantizing value is identical (the process of determine whether the quantization width fall within a range) to a previous pattern quantizing value (column 8, lines 25-67).

Regarding claim 4, please refer back to claim 1 for the teachings and explanations.

For claims 5 and 9-11, please refer back to claim 1 for further explanation.

14. Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Nakagawa U.S. Patent No. 5,291,282 and Katsuyama U.S. Patent No. 6,771,813 as applied to claim 1 above, and further in view of Acharya U.S. Patent No. 6,574,374.

Regarding claim 2, as discussed in claim 1, Nakagawa teaches the concept of decomposition. However, Nakagawa does not disclose the concept of decomposition is based on a discrete wavelet transform. Acharya teaches the system removing noises/artifacts (abstract) wherein the decomposition is based on a discrete wavelet transform (column 4, lines 1-10) to further remove the artifacts from the image. Modifying Nakagawa's method of describing pattern repetitiveness according to Nakagawa would be able to further remove the noise and

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artifacts from the images. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Nakagawa according to Acharya.

For claim 6, please refer back to claim 2 for the explanation.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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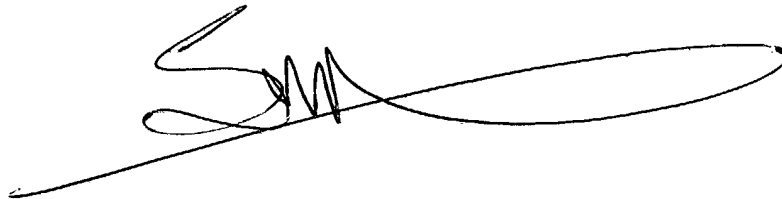
Contact Information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

BL
October 28, 2004

A handwritten signature in black ink, appearing to read 'SAMIR AHMED', with a long horizontal flourish extending to the right.

**SAMIR AHMED
PRIMARY EXAMINER**